IBM System x3630 M3

IBM System x at-a-glance guide

The IBM® System x3630 M3 is a storage-rich dual-socket 2U server that integrates the leadership features of traditional enterprise server offerings with affordable components to deliver outstanding value to cost-conscious buyers. Based on the Intel Xeon 5600 processor technology, the x3630 M3 offers high performance and maximum storage capacity. It provides up to 28 TB of internal storage capacity for a much lower cost per terabyte than external storage, making it an ideal solution for storage-intensive workloads.

The x3630 M3 helps keep your business running smoothly with availability features that include redundant cooling fan modules and hot-swap/redundant power supplies, RAID protection, and predictive failure analysis. The x3630 M3 also offers a comprehensive suite of systems management tools that help simplify management tasks.

Figure 1. The IBM System x3630 M3

Did you know

The x3630 M3 is the best choice to maximize internal storage. With support for up to twenty-eight 2.5-inch hot-swap SAS or SATA disk drives, the server can house up to 28 TB of local storage. In addition, comprehensive systems management tools such as the built-in integrated management module, light path diagnostics, Predictive Failure Analysis, and support for IBM Systems Director make it easy to deploy, integrate, service, and manage the server.

Locations of key components and connectors

Figure 2 shows the front of the models with 2.5-inch drives (top) and 3.5-inch drives (bottom).

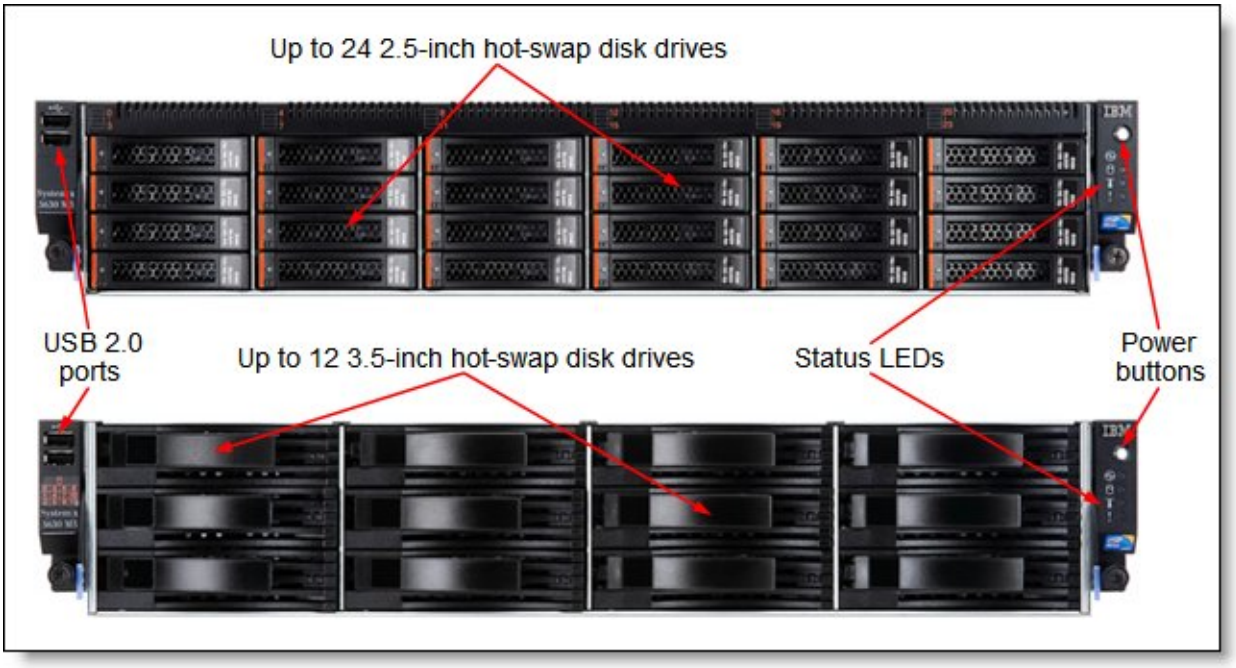

Figure 2. System x3630 M3 - Front view

Figure 3 shows the rear of the server. Either four 2.5-inch hot-swap drives (as shown) or two 3.5-inch hot-swap drives can be installed using one of the optional rear hot-swap SAS/SATA hard disk drive cages.

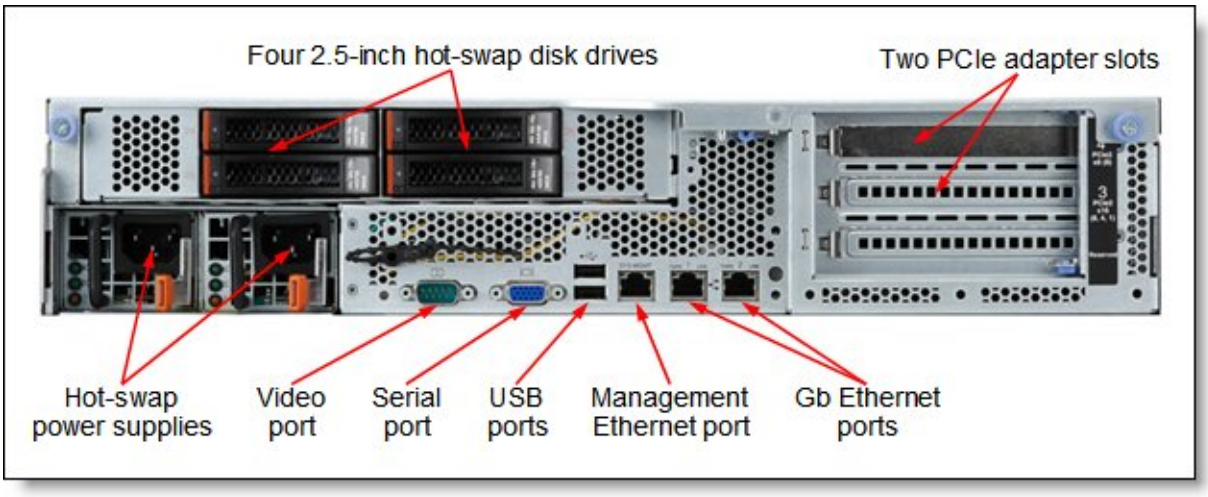

Figure 3. System x3630 M3 - Rear view

Figure 4 shows the locations of key components inside the server. The front hot-swap drive bays are not shown.

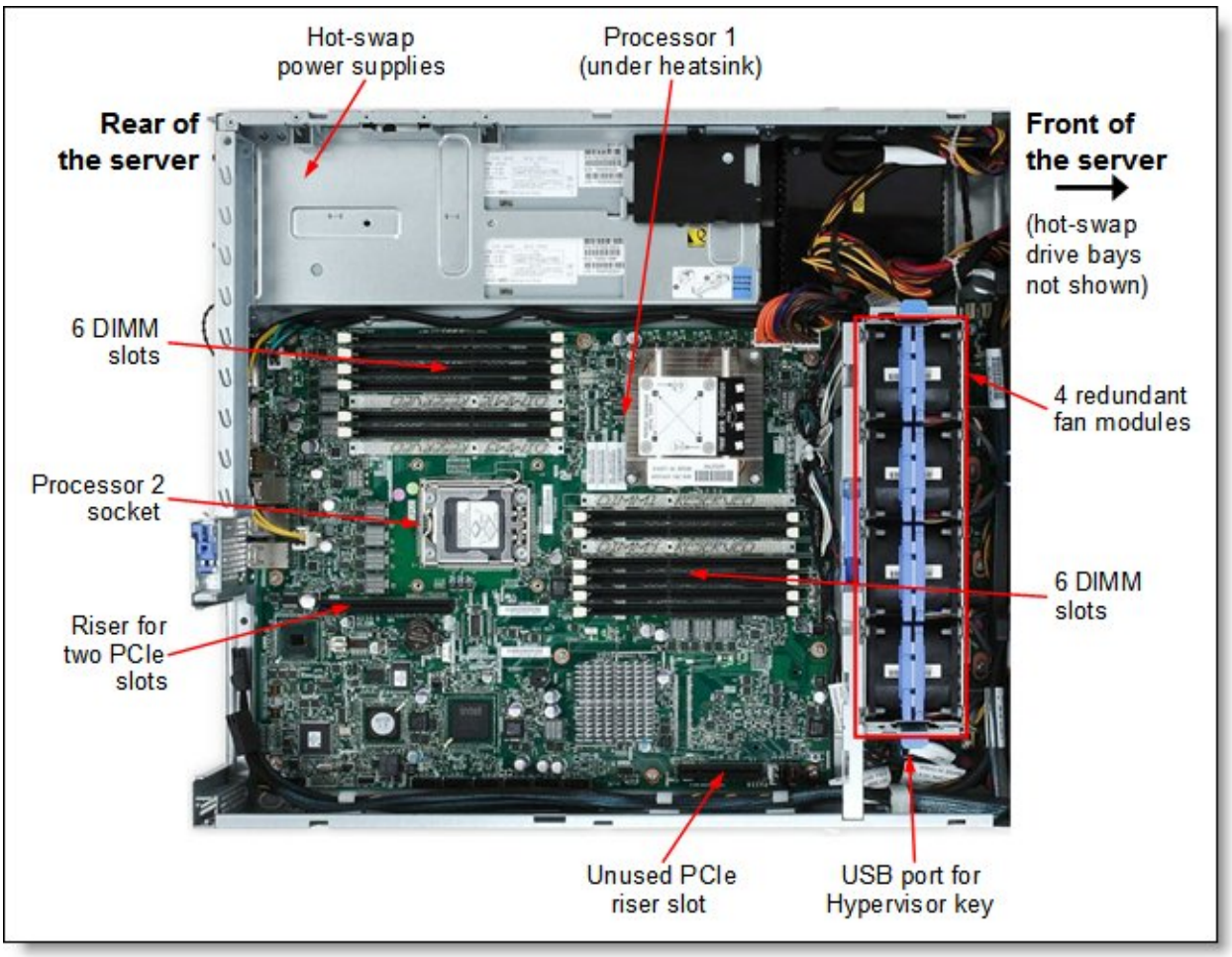

Figure 4. System x3630 M3 - Inside view

Standard specifications

Table 1. Standard specifications (part 1)

Components	Specification
Form factor	2U rack.
Processor	Up to two six-core (up to 3.06 GHz) or quad-core (up to 3.2 GHz) Intel Xeon 5600 series processors with QuickPath Interconnect technology up to 6.4 GT/s, and up to 1333 MHz memory speed. Up to two four-core (up to 2.26 GHz) or dual-core (2.0 GHz) Intel Xeon 5500 series processors.
Memory cache	Up to 12 MB L3 for Intel Xeon 5600 series processors. Up to 4 MB L3 for Intel Xeon 5500 series processors.
Chipset	Intel 5500.
Memory DIMM slots	12 DDR3 DIMM slots (6 per installed processor).
Memory capacity	Up to 192 GB with 16 GB DDR3 RDIMMs and 12 populated DIMM slots (up to 96 GB with six DIMMs per processor).
Memory protection	ECC, ChipKill (for x4-based memory DIMMs), and Memory Mirroring.
Disk drive bays	Up to fourteen 3.5-inch hot-swap SAS/SATA HDDs, or up to twenty-eight 2.5-inch hot-swap SAS/SATA HDDs.
Maximum internal storage	Up to 16.8 TB with 600 GB SAS HDDs, or up to 28.0 TB with 2 TB SATA HDDs. Intermix of SAS/SATA is supported.
RAID support	RAID 0, 1, 1E with ServeRAID M1015. Optional upgrade to RAID-5. RAID 0, 1, 5, 10, 50 with ServeRAID M5014 or M5015. Optional upgrade to RAID 6 and 60.
Optical drive bays	None.
Tape drive bays	None.
Network interfaces	Integrated 2-port Gigabit Ethernet.
PCI Expansion slots	Two PCI Express 2.0 slots: ● One PCI Express 2.0 x16 (x8 wired) ● One PCI Express 2.0 x8 (x8 wired) (for the standard ServeRAID controller)
External ports	Front: Two USB 2.0 ports. Rear: Two USB 2.0, one DB-15 video, one DB-9 serial, one RJ-45 systems management, two RJ-45 Gigabit Ethernet network ports. Internal: One internal USB port for embedded hypervisor.
Cooling	IBM Calibrated Vectored Cooling™ with four counter-rotating non-hot-swap fans with N+1 redundancy.
Power supply	Up to two redundant hot-swap 675 W AC or 675 W high-efficiency (HE) AC power supplies with 90%+ efficiency.
Hot-swap components	Hard drives, power supplies.
Systems management	UEFI, IBM Integrated Management Module (IMM), Predictive Failure Analysis, Light Path Diagnostics, Automatic Server Restart, IBM Systems Director and IBM Systems Director Active Energy Manager™, IBM ServerGuide. Optional Virtual Media Key for remote presence (graphics, keyboard and mouse, virtual media).
Security features	Power-on password, administrator's password.

Table 1. Standard specifications (part 2)

Components	Specification
Video	Matrox G200eV with 16 MB memory integrated into the IMM. Maximum resolution is 1280x1024 at 75 Hz with 16M colors.
Operating systems supported	Microsoft Windows Server 2003/2003 R2, 2008/2008R2, Microsoft Windows Small Business Server, Red Hat Enterprise Linux 5 and 6, SUSE Linux Enterprise Server 10 and 11, VMware ESX 4/4.1 and VMware ESXi 4/4.1 embedded hypervisor.
Limited warranty	Three-year customer-replaceable unit and onsite limited warranty with 9x5 next-business-day response time.
Service and support	Optional service upgrades are available through IBM ServicePacs®: 24x7 with next business day or 4 hours onsite repair, 1-year or 2-year warranty extension, remote technical support for IBM hardware and selected IBM and third-party (Microsoft, Linux, VMware) software.
Dimensions	Width: 488 mm (19.2 in), depth: 749 mm (29.5 in), height: 87 mm (3.4 in)
Weight	Minimum configuration: 16.20 kg (35.68 lb), maximum configuration: 29.20 kg (64.32 lb)

The x3630 M3 servers are shipped with the following items:

- Statement of Limited Warranty
- Important Notices
- Rack Installation Instructions
- Documentation CD that contains the *Installation and User's Guide*
- IBM Systems Director 6.2 Base for x86 DVD-ROM
- Slides Kit
- One 2.8 m C13 - C14 power cord

Standard models

The following table lists the standard models. Model C4x is preloaded with Windows Storage Server 2008 R2 Standard Edition.

Table 2. Standard models

Model	Processor (2 maximum)*	Memory	RAID adapter	Disk bays‡	Disks	Network	Optical	Power supply
Models announced January 2012								
7377-C4x †	1x Xeon E5620 2.40 GHz 4C 1 2MB 1066 MHz	1x 8 GB	M5015 + Battery	24x 2.5" HS (28 max)	1x 300 GB 10K 2.5" HS HDD†	2x GbE	None	2x 675 W High Eff.
Models announced February 2011								
7377-A2x	1x Xeon E5603 1.60 GHz 4C 4 MB 1066 MHz	1x 4 GB	M1015	12x 3.5" HS (14 max)	Optional	2x GbE	None	1x 675 W
7377-B2x	1x Xeon E5607 2.26 GHz 4C 8 MB 1066 MHz	1x 4 GB	M1015	12x 3.5" HS (14 max)	Optional	2x GbE	None	1x 675 W
7377-C2x	1x Xeon E5620 2.40 GHz 4C 1 2MB 1066 MHz	1x 4 GB	M5014	24x 2.5" HS (28 max)	Optional	2x GbE	None	1x 675 W
7377-D2x	1x Xeon E5645 2.40 GHz 6C 12 MB 1333 MHz	1x 4 GB	M5014	12x 3.5" HS (14 max)	Optional	2x GbE	None	1x 675 W
7377-F2x	1x Xeon E5649 2.53 GHz 6C 12 MB 1333 MHz	1x 4 GB	M5014	24x 2.5" HS (28 max)	Optional	2x GbE	None	1x 675 W
7377-64x	1x Xeon X5650 2.66 GHz 6C 12 MB 1333 MHz	1x 4 GB	M5015 + Battery	12x 3.5" HS (14 max)	Optional	2x GbE	None	1x 675 W
7377-G2x	1x Xeon X5675 3.06 GHz 6C 12 MB 1333 MHz	1x 4 GB	M5015 + Battery	24x 2.5" HS (28 max)	Optional	2x GbE	None	1x 675 W

* In the processor column: standard quantity of processors, processor model, core speed, cores, L3 cache, memory speed
‡ The standard disk bays are in the front of the server. The rear disk bays are optional with the addition of a hot-swap SAS/SATA rear hard disk drive cage
† Model C4x is preloaded with Microsoft Windows Storage Server 2008 R2 Standard Edition

Refer to the Specifications section for information about standard features of the server.

Express models

Express models are preconfigured with additional components such as processors, memory, and disks with the purpose of making the ordering and installation process simpler.

Table 3. Express models

Model	Processor (2 maximum)*	Memory	RAID adapter	Disk bays‡	Disks	Network	Optical	Power supply
NA								
7377-E1U	1x Xeon E5620 2.40 GHz 4C 12 MB 1066 MHz	6x 2 GB	M5015 + Battery	12x 3.5" HS (14 max)	4x 1 TB	2x GbE	No	2x 675 W
7377-E2U	1x Xeon E5620 2.40 GHz 4C 12 MB 1066 MHz	5x 4 GB	M5015 + Battery	12x 3.5" HS (14 max)	6x 1 TB	2x GbE	No	2x 675 W
Latin America								
7377-E1U	1x Xeon E5620 2.40 GHz 4C 12 MB 1066 MHz	6x 2 GB	M5015 + Battery	12x 3.5" HS (14 max)	4x 1 TB	2x GbE	No	2x 675 W
7377-E2U	1x Xeon E5620 2.40 GHz 4C 12 MB 1066 MHz	6x 4 GB	M5015 + Battery	12x 3.5" HS (14 max)	6x 1 TB	2x GbE	No	2x 675 W
7377-42U	1x Xeon E5630 2.53 GHz 4C 12 MB 1333 MHz	1x 4 GB	M5014	12x 3.5" HS (14 max)	Optional	2x GbE	No	1x 675 W
7377-D2U	1x Xeon E5645 2.40 GHz 6C 12 MB 1333 MHz	1x 4 GB	M5014	12x 3.5" HS (14 max)	Optional	2x GbE	No	1x 675 W
7377-64U	1x Xeon E5650 2.66 GHz 6C 12 MB 1333 MHz	1x 4 GB	M5015 + Battery	12x 3.5" HS (14 max)	Optional	2x GbE	No	1x 675 W
RCIS								
7377-K1G	1x Xeon E5606 2.13 GHz 4C 8 MB 1066 MHz	1x 4 GB	M5015 + Battery	12x 3.5" HS (14 max)	Optional	2x GbE	Multiburner	1x 675 W
7377-K2G	1x Xeon E5620 2.40 GHz 4C 12 MB 1066 MHz	1x 4 GB	M5015 + Battery	12x 3.5" HS (14 max)	Optional	2x GbE	Multiburner	1x 675 W

* In the processor column: standard quantity of processors, processor model, core speed, cores, L3 cache, memory speed.
‡ The standard disk bays are in the front of the server. The rear disk bays are optional with the addition of a rear hot-swap SAS/SATA rear hard disk drive cage.

Processor options

The server supports up to two processors. The following table shows which server models have each processor standard and lists the additional processor options supported by this server. If there is no corresponding *where-used* model for a particular processor, then this processor is only available through CTO.

Table 4. Processor options

Part number	Description	Models where used
Intel Xeon 5600 series processors		
81Y6703	Intel Xeon Processor E5603 4C 1.60GHz 4MB Cache 1066MHz 80w	A2x
81Y6704	Intel Xeon Processor E5606 4C 2.13GHz 8MB Cache 1066MHz 80w	-
81Y6705	Intel Xeon Processor E5607 4C 2.26GHz 8MB Cache 1066MHz 80w	B2x
69Y1225	Intel Xeon Processor E5620 4C 2.40 GHz 12 MB Cache 1066 MHz 80 w	C2x, C4x, E1U, E2U
69Y1357	Intel Xeon Processor E5630 4C 2.53 GHz 12 MB Cache 1066 MHz 80 w	42x
69Y1358	Intel Xeon Processor E5640 4C 2.66 GHz 12 MB Cache 1066 MHz 80 w	52x
81Y6707	Intel Xeon Processor E5645 6C 2.40GHz 12MB Cache 1333MHz 80w	D2x
81Y6708	Intel Xeon Processor E5649 6C 2.53GHz 12MB Cache 1333MHz 80w	F2x
81Y6713	Intel Xeon Processor L5609 4C 1.86GHz 12MB Cache 1066MHz 40w	-
69Y1359	Intel Xeon Processor L5630 4C 2.13 GHz 12 MB Cache 1066 MHz 40 w	-
69Y1227	Intel Xeon Processor L5640 6C 2.26 GHz 12 MB Cache 1333 MHz 60 w	-
69Y1229	Intel Xeon Processor X5650 6C 2.66 GHz 12 MB Cache 1333 MHz 95 w	62x, 64x
81Y6710	Intel Xeon Processor X5660 6C 2.80GHz 12MB Cache 1333MHz 95w	-
69Y1231	Intel Xeon Processor X5670 6C 2.93 GHz 12 MB Cache 1333 MHz 95 w	72x
81Y6712	Intel Xeon Processor X5672 4C 3.20GHz 12MB Cache 1333MHz 95w	-
81Y6711	Intel Xeon Processor X5675 6C 3.06GHz 12MB Cache 1333MHz 95w	G2x
Intel Xeon 5500 series processors		
69Y5251	Intel Xeon Processor E5503 2C 2.0 GHz 4 MB Cache 800 MHz 80 w	-
69Y1217	Intel Xeon Processor E5506 4C 2.13 GHz 4 MB Cache 800 MHz 80 w	22x
69Y1356	Intel Xeon Processor E5507 4C 2.26 GHz 4 MB Cache 800 MHz 80 w	32x

Memory options

The server supports 12 DIMM slots. When one processor is installed, then only six DIMM slots can be used. When two processors are installed, then all 12 DIMM slots can be used. The server supports single-rank, dual-rank, and quad-rank RDIMMs. The maximum amount of memory is achieved when two processors are installed and 16 GB quad-rank RDIMMs are used for a total of 192 GB (96 GB per CPU).

Each CPU has three memory channels and there are two DIMMs per channel. Maximum memory speed is limited by memory speed supported by the specific processor and by the number and type of DIMMs installed (whichever has a lower memory speed rating), as follows:

- Intel Xeon 5600 series processors:
  - 1333 MHz when one or two single-rank or dual-rank RDIMMs per channel are installed
  - 1066 MHz when one quad-rank RDIMM per channel is installed
  - 800 MHz when two quad-rank RDIMMs per channel are installed
- Intel Xeon 5500 series processors: Quad-core and dual-core processors in the x3630 M3 only support memory speed at 800 MHz.

The server supports both 1.5 V and 1.35 V DIMMs. However, mixing the DIMMs with different voltage is not supported. Only systems with Intel Xeon 5600 series processors support the 1.35 V DIMMs.

The following memory protection technologies are supported:

- ECC
- ChipKill (for x4-based RDIMMs)
- Memory mirroring

If memory mirroring is used then DIMMs must be installed in pairs (minimum of one pair per each CPU), and both DIMMs in a pair must be identical in type and size.

The following table lists memory options available for the x3630 M3 server.

Table 5. Memory options

Part number	Description	Maximum quantity supported	Standard models where used
49Y1432	1 GB (1x 1 GB, 1Rx8, 1.5 V) PC3-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	12 (6 per CPU)	-
49Y1434	2 GB (1x 2 GB, 1Rx4, 1.5 V) PC3-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	12 (6 per CPU)	-
49Y1405	2 GB (1x 2 GB, 1Rx8, 1.35 V) PC3L-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	12 (6 per CPU)	-
49Y1435	4 GB (1x 4 GB, 2Rx4, 1.5 V) PC3-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	12 (6 per CPU)	22Y, 32Y, 42Y, 52Y, 62Y, 72Y
49Y1406	4 GB (1x 4 GB, 1Rx4, 1.35 V) PC3L-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	12 (6 per CPU)	A2x, B2x, C2x, D2x, F2x, 64x, G2x
49Y1407	4 GB (1x 4 GB, 2Rx8, 1.35 V) PC3L-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	12 (6 per CPU)	-
49Y1397	8 GB (1x 8 GB, 2Rx4, 1.35 V) PC3L-10600 CL9 ECC 1333 MHz LP RDIMM	12 (6 per CPU)	C4x
49Y1436	8 GB (1x 8 GB, 2Rx4, 1.5 V) PC3-10600 CL9 ECC DDR3 1333 MHz LP RDIMM	12 (6 per CPU)	-
49Y1400	16 GB (1x 16 GB, 4Rx4, 1.35 V) PC3L-8500 CL7 ECC DDR3 1066 MHz LP RDIMM	12 (6 per CPU)	-

Internal disk storage options

The IBM System x3630 M3 models come standard with one of the following internal disk storage configurations:

- 12x 3.5-inch hot-swap SAS/SATA hard drive bays at the front of the server
- 24x 2.5-inch hot-swap SAS/SATA hard drive bays at the front of the server

In addition, the server supports hot-swap drives at the rear of the server (Figure 3):

- For models with 3.5-inch drives at the front, two extra 3.5-inch hot-swap hard drive bays
- For models with 2.5-inch drives at the front, four extra 2.5-inch hot-swap hard drive bays

The following table lists the two rear hot-swap cage assemblies needed to support disk drives at the rear of the server. The same drives that are supported in the front bays are also supported in the rear bays (see the *Disk drive options* table).

Table 6. Internal storage expansion options

Part number	Description	Maximum quantity supported
69Y1527	2.5-inch Hot Swap Cage Assembly, Rear, 4x 2.5"	1
69Y1511	3.5-inch Hot Swap Cage Assembly, Rear, 2x 3.5"	1

The backplane for the rear hot-swap drives is connected via a SAS cable to the backplane of the front hot-swap bays. This cable (and other cables and mounting hardware) is included with the assemblies listed in the *Internal storage expansion options* table.

The following table lists hard drive options for internal disk storage in the x3630 M3. The mixing of SAS drives and SATA drives is supported by the server.

Table 7. Disk drive options (part 1)

Part number	Description	Maximum quantity supported
3.5" Hot-Swap SATA HDD		
43W7754	IBM 250GB 7.2K SATA 3.5" Hot-Swap HDD	14
39M4530	500 GB 7200 RPM 3.5" Hot-Swap SATA II	14
43W7626	IBM 1 TB 7200 SATA 3.5" HS HDD	14
42D0782	IBM 2 TB 7200 NL SATA 3.5" HS HDD	14
81Y9774	IBM 3TB 7.2K 6Gbps NL SATA 3.5" HS HDD	14
3.5" Hot-Swap SAS HDDs		
44W2234	IBM 300 GB 15 K 6 Gbps SAS 3.5" Hot-Swap HDD	14
44W2239	IBM 450 GB 15 K 6 Gbps SAS 3.5" Hot-Swap HDD	14
44W2244	IBM 600 GB 15 K 6 Gbps SAS 3.5" Hot-Swap HDD	14
42D0777	IBM 1 TB 7.2 K 6 Gbps NL SAS 3.5" HS HDD	14
42D0767	IBM 2 TB 7.2 K 6 Gbps NL SAS 3.5" HS HDD	14
81Y9758	IBM 3TB 7.2K 6Gbps NL SAS 3.5" HS HDD	14

Table 7. Disk drive options (part 2)

Part number	Description	Maximum quantity supported
2.5" SAS Hot-Swap HDDs		
42D0672	IBM 73GB 15K 6Gbps SAS 2.5" SFF Slim-HS HDD	28
42D0632	IBM 146 GB 10 K 6 Gbps SAS 2.5" SFF Slim-HS HDD	28
42D0677	IBM 146 GB 15 K 6 Gbps SAS 2.5" SFF Slim-HS HDD	28
44W2294	IBM 146 GB 15 K 6 Gbps SAS 2.5" SFF Slim-HS SED	28
42D0637	IBM 300 GB 10 K 6 Gbps SAS 2.5" SFF Slim-HS HDD	28
44W2264	IBM 300 GB 10 K 6 Gbps SAS 2.5" SFF Slim-HS SED	28
81Y9670	IBM 300GB 15K 6Gbps SAS 2.5" SFF HS HDD	-
42D0707	500 GB 7200 6 Gbps NL SAS 2.5" SFF Slim-HS HDD	28
49Y2003	IBM 600 GB 10 K 6 Gbps SAS 2.5" SFF Slim-HS HDD	28
81Y9650	IBM 900GB 10K 6Gbps SAS 2.5" SFF HS HDD	-
81Y9690	IBM 1TB 7.2K 6Gbps NL SAS 2.5" SFF HS HDD	28
2.5" SATA Hot-Swap HDDs		
81Y9722	IBM 250GB 7.2K 6Gbps NL SATA 2.5" SFF HS HDD	28
81Y9726	IBM 500GB 7.2K 6Gbps NL SATA 2.5" SFF HS HDD	28
81Y9730	IBM 1TB 7.2K 6Gbps NL SATA 2.5" SFF HS HDD	28
2.5" SATA Hot-Swap SSDs		
43W7718	IBM 200GB SATA 2.5" MLC HS SSD	28

The following table lists the RAID controllers and additional options used for internal disk storage of the x3630 M3 server.

Table 8. RAID controllers for internal storage

Part number	Description	Maximum quantity supported	Standard models where used
46M0831	ServeRAID M1015 SAS/SATA Controller	1	22x, 32x, A2x, B2x
46M0832	ServeRAID M1000 Series Advance Feature Key	1	-
46M0916	ServeRAID M5014 SAS/SATA Controller	1	42x, 52x, C2x, D2x, F2x
46M0829	ServeRAID M5015 SAS/SATA Controller	1	62x, 72x, 64x, G2x
46M0917	ServeRAID M5000 Series Battery Kit	1	62x, 72x, 64x, G2x
46M0930	ServeRAID M5000 Series Advanced Feature Key*	1	-
81Y4426	ServeRAID M5000 Series Performance Accelerator Key*	1	-

* The Advanced Feature Key and Performance Accelerator Key cannot be used at the same time. Only one key can be installed onto the RAID controller.

The RAID controller in standard models is installed in PCIe slot 4 at the rear of the server (the top slot). Only one RAID controller can be used with the server to support internal HDDs. The two internal ports of the RAID card are connected to the backplane of the front hot-swap drive bays. The backplane incorporates a SAS expander to allow the single RAID card to support all internal drives.

The ServeRAID M1015 SAS/SATA Controller has the following specifications:

- Two Mini-SAS internal connectors
- Supports RAID levels 0, 1, 10
- Supports RAID levels 5 and 50 with optional ServeRAID M1000 Series Advanced Feature Key
- 6 Gbps throughput per port
- Based on the LSI SAS2008 6 Gbps RAID on Chip (ROC) controller
- PCI Express 2.0 x8 host interface
- Configurable stripe size up to 64 KB

For more information, see the following at-a-glance guide:
http://www.redbooks.ibm.com/abstracts/tips0740.html?Open

The ServeRAID M5014 SAS/SATA Controller has the following specifications:

- Two Mini-SAS internal connectors
- Supports RAID levels 0, 1, 5, 10, and 50
- Supports RAID 6 and 60 with the optional M5000 Advanced Feature Key
- Performance optimization for SSD drives with optional M5000 Series Performance Accelerator Key
- 6 Gbps throughput per port
- PCI Express 2.0 x8 host interface
- Based on the LSI SAS2108 6 Gbps RAID on Chip (ROC) controller
- 256 MB of onboard cache
- Optional Intelligent Li-Ion-based battery backup unit with the ServeRAID M5000 Series Battery Kit

For more information, see the following at-a-glance guide:
http://www.redbooks.ibm.com/abstracts/tips0738.html?Open

The ServeRAID M5015 SAS/SATA Controller has the following specifications:

- Two Mini-SAS internal connectors
- Supports RAID levels 0, 1, 5, 10, and 50
- Supports RAID 6 and 60 with the optional M5000 Advanced Feature Key
- Performance optimization for SSD drives with optional M5000 Series Performance Accelerator Key
- 6 Gbps throughput per port
- PCI Express 2.0 x8 host interface
- Based on the LSI SAS2108 6 Gbps RAID on Chip (ROC) controller
- 512 MB of onboard cache
- Standard Intelligent Li-Ion-based battery backup unit with up to 48 hours of data retention

For more information, see the following at-a-glance guide:
http://www.redbooks.ibm.com/abstracts/tips0738.html?Open

Internal tape drives

The server does not support internal tape drive options.

Optical drives

The server does not support internal optical drive options.

External storage expansion

The external disk storage expansion enclosures listed in the following table are available.

Table 9. External storage expansion enclosures

Part number	Description	Maximum quantity supported per one M5025
172701X	IBM System Storage® EXP3000	18 (9 per port)
1746A4D	IBM System Storage DS3524 Express Dual Controller Storage System	-
1746A4S	IBM System Storage DS3524 Express Single Controller Storage System	-
1746A2D	IBM System Storage DS3512 Express Dual Controller Storage System	-
1746A2S	IBM System Storage DS3512 Express Single Controller Storage System	-

The hard disk drives listed in the following table are supported with external expansion enclosures.

Table 10. Hard drive options for external expansion enclosures

Part number	Description	Maximum quantity supported per one enclosure
EXP3000 Hot-Swap SATA 3.5" Hard Drives		
43W7630	1000 GB Dual Port Hot Swap SATA	12
49Y1940	IBM 2 TB 7200 Dual Port SATA 3.5" HS HDD	12
EXP3000 Hot-Swap SAS 3.5" Hard Drives		
44W2234	IBM 300 GB 15K 6 Gbps SAS 3.5" Hot-Swap HDD	12
44W2239	IBM 450 GB 15K 6 Gbps SAS 3.5" Hot-Swap HDD	12
44W2244	IBM 600 GB 15K 6 Gbps SAS 3.5" Hot-Swap HDD	12

The ServeRAID M5025 RAID controller listed in the following table are supported and connect to external expansion enclosures.

Table 11. RAID controllers for external storage expansion enclosures

Part number	Description	Maximum quantity supported
46M0830	ServeRAID M5025 SAS/SATA Controller	1
46M0930	ServeRAID M5000 Series Advance Feature Key*	1 per one M5025
81Y4426	ServeRAID M5000 Series Performance Accelerator Key*	1 per one M5025

* Note: The Advanced Feature Key and Performance Accelerator Key cannot be used at the same time. Only one key can be installed onto the RAID controller.

The ServeRAID M5025 SAS/SATA Controller has the following specifications:

- Two Mini-SAS external connectors
- Supports RAID levels 0, 1, 5, 10, and 50
- Supports RAID 6 and 60 with the optional M5000 Advanced Feature Key
- Performance optimization for SSD drives with optional M5000 Series Performance Accelerator Key
- 6 Gbps throughput per port
- PCI Express 2.0 x8 host interface
- Based on the LSI SAS2108 6 Gbps ROC controller
- 512 MB of onboard cache
- Intelligent Li-Ion-based battery backup unit with up to 48 hours of data retention
- Supports connectivity to the EXP3000, EXP2512, and EXP2524 storage expansion enclosures

For more information about the M5025, see the *ServeRAID M5025 SAS/SATA Controller for IBM System x* at-a-glance guide: http://www.redbooks.ibm.com/abstracts/tips0739.html?Open

The external SAS cables listed in the following table are supported with external expansion enclosures and M5025 RAID controllers.

Table 12. External SAS cables for external storage expansion enclosures

Part number	Description	Maximum quantity supported per enclosure*
39R6531	IBM 3 m SAS Cable	1
39R6529	IBM 1 m SAS Cable	1

* Note: The EXP3000 series can be chained with each other. In such a case, one cable is used to connect first EXP3000 to the RAID controller, and every consecutive EXP unit is connected to previous one by one cable.

External tape backup

The server supports the external tape attachment options listed in the following table.

Table 13. External tape options

Part number	Description
External tape expansion enclosures for internal tape drives	
8767HHX	Half High Tape Drive Enclosure
8767HNX	Half High Tape Drive Enclosure (with Nema 5-15P LineCord)
Tape enclosure adapters (with cables)	
44E8869	USB Enclosure Adapter Kit
Internal tape drives supported by external tape enclosures	
43W8478	IBM Half High LTO Gen 3 SAS Tape Drive
44E8895	IBM Half High LTO Gen 4 SAS Tape Drive
49Y9898	IBM Half High LTO Gen 5 Internal SAS Tape Drive
46C5399	IBM DDS Generation 5 SATA Tape Drive
39M5636	IBM DDS Generation 6 USB Tape Drive
External tape drives	
362516X	IBM RDX Removable Hard Disk Storage System - External USB 160 GB Bundle
362532X	IBM RDX Removable Hard Disk Storage System - External USB 320 GB Bundle
362550X	IBM RDX Removable Hard Disk Storage System - External USB 500 GB Bundle
3628L3X	IBM Half High LTO Gen 3 External SAS Tape Drive
3628L4X	IBM Half High LTO Gen 4 External SAS Tape Drive
3628L5X	IBM External Half High LTO Gen 5 SAS Tape Drive (with US linecord)
3628N3X	IBM External Half High LTO Gen 3 SAS Tape Drive
3628N4X	IBM External Half High LTO Gen 4 SAS Tape Drive
3628N5X	IBM External Half High LTO Gen 5 SAS Tape Drive (no US linecord)
3572-Sxx	IBM System Storage® TS2900 Tape Autoloader
3573-xxx	IBM System Storage TS3100/TS3200 Tape Library
3580-H5S	IBM System Storage TS2250 Tape Drive Model H5S
3580-S3E	IBM System Storage TS2230 Tape Drive Express Model
3580-S4E	IBM System Storage TS2240 Tape Drive Model S4E
3580-S53	IBM System Storage TS2350 Tape Drive Model S53

Internal tape drives are installed in the Half High Tape Drive Enclosure (up to one tape drive per enclosure). One USB Enclosure Adapter Kit is required per tape drive (x3630 only supports the external USB Kit for the internal USB or SATA tape drives). The USB Enclosure Kit includes an external 3 m cable and SATA-to-USB dongle to connect the enclosure to the server's USB port.

I/O expansion options

The server has two available PCI Express slots. One PCI Express x16 (x8 wired) Gen 2 slot is available, and one PCI Express x8 Gen 2 slot is dedicated to the RAID controller. The slot form-factors are as follows:

- Slot 3: Full-height, half-length
- Slot 4: Full-height, half-length (dedicated to the RAID Controller)

Note: There is no slot 1 or slot 2 in the x3630 M3. The system board includes an additional internal PCIe riser slot, but this slot is reserved.

Network adapters

The x3630 M3 has two integrated Gigabit Ethernet ports. Integrated NICs have the following features:

- Intel 82575 chip
- TCP/UDP, IPv4, and IPv6 checksum offloads
- TCP Segmentation/Transmit Segmentation Offloading (TSO)
- Wake on LAN support
- 802.1Q VLAN tagging support
- Support for jumbo frames up to 9 KBytes
- NIC teaming (load balancing and failover) with Intel PROSet software

The following table lists additional, supported network adapters.

Table 14. Network adapters

Part number	Description	Maximum quantity supported
10 Gb Ethernet		
42C1800	QLogic 10 Gb Dual Port CNA for IBM System x	1
42C1820	Brocade 10 Gb Dual-port CNA for IBM System x	1
49Y7960	Intel X520 Dual Port 10GbE SFP+ Adapter for IBM System x	1
81Y9990	Mellanox ConnectX-2 Dual Port 10GbE Adapter for IBM System x	1
49Y7910	Broadcom NetXtreme II Dual Port 10GBaseT Adapter for IBM System x	1
49Y4250	Emulex 10 GbE Virtual Fabric Adapter for IBM System x	1
49Y7950	Emulex 10GbE Virtual Fabric Adapter II for IBM System x	1
Gigabit Ethernet		
42C1780	NetXtreme II 1000 Express Dual Port Ethernet Adapter	1
49Y4220	NetXtreme II 1000 Express Quad Port Ethernet Adapter	1
49Y4230	Intel Ethernet Dual Port Server Adapter I340-T2 for IBM System x	1
49Y4240	Intel Ethernet Quad Port Server Adapter I340-T4 for IBM System x	1

Storage host bus adapters

The following table lists the storage adapters supported by x3630 M3 server.

Table 15. Storage adapters

Part number	Description	Maximum quantity supported
Fibre Channel		
39R6525	QLogic 4Gb FC Single-Port PCIe HBA for IBM System x	-
39R6527	QLogic 4Gb FC Dual-Port PCIe HBA for IBM System x	-
42C2069	Emulex 4Gb FC Single-Port PCI-E HBA for IBM System x	-
42C2071	Emulex 4Gb FC Dual-Port PCI-E HBA for IBM System x	-
59Y1987	Brocade 4Gb FC Single-port HBA for IBM System x	-
59Y1993	Brocade 4Gb FC Dual-port HBA for IBM System x	-
46M6050	Brocade 8Gb FC Dual-port HBA for IBM System x	1
42D0485	Emulex 8 Gb FC Single-port HBA for IBM System x	1
42D0494	Emulex 8 Gb FC Dual-port HBA for IBM System x	1
42D0501	QLogic 8 Gb FC Single-port HBA for IBM System x	1
42D0510	QLogic 8 Gb FC Dual-port HBA for IBM System x	1
46M6049	Brocade 8 Gb FC Single-port HBA for IBM System x	1
46M6050	Brocade 8 Gb FC Dual-port HBA for IBM System x	1
Converged Network Adapters (CNA)*		
42C1800	QLogic 10 Gb Dual Port CNA for IBM System x	1
42C1820	Brocade 10 Gb Dual-port CNA for IBM System x	1
SAS		
46M0907	IBM 6 Gb SAS HBA Controller	1
46M0912	IBM 6Gb Performance Optimized HBA	2

* Converged Network Adapters require SFP+ optical transceivers or DAC cables that must be purchased separately.

SSD adapters

The server supports the High IOPS SSD adapters listed in the following table.

Table 16. SSD adapters

Part number	Description	Maximum quantity supported
81Y4535	320GB High IOPS SLC Adapter For IBM System X	-
81Y4539	640GB High IOPS SLC Duo Adapter For IBM System X	-
81Y4531	640GB High IOPS MLC Adapter For IBM System X	-
81Y4519	640GB High IOPS MLC Duo Adapter for IBM System x	1
81Y4527	1.28TB High IOPS MLC Duo Adapter For IBM System X	-

Power supplies

The server supports up to two redundant power supplies providing N+N redundancy. Most standard models come with one power supply. The following table lists the redundant power supply option available for the x3630 M3 server.

Table 17. Power supplies

Part number	Description	Maximum supported	Standard models where used
69Y1213	675 W Redundant Power Supply	2*	22Y, 32Y, 42Y, 52Y, 62Y, 72Y, A2x, B2x, C2x, D2x, F2x, 64x, G2x
81Y6557	IBM 675 W High Efficiency Redundant AC Power Supply	2*	C4x

* One power supply comes standard with every model. Model C4x includes two power supplies.

The AC power supply ships standard with one 2.8 m C13 - C14 power cord.

Remote management

The server contains IBM Integrated Management Module (IMM), which provides advanced service-processor control, monitoring, and alerting functions. If an environmental condition exceeds a threshold or if a system component fails, the IMM lights LEDs to help you diagnose the problem, records the error in the event log, and alerts you to the problem. Optionally, the IMM also provides a virtual presence capability for remote server management capabilities.

The IMM provides remote server management through industry-standard interfaces:

- Intelligent Platform Management Interface (IPMI) Version 2.0
- Simple Network Management Protocol (SNMP) Version 3
- Common Information Model (CIM)
- Web browser

The optional virtual media key is required to enable the remote presence and blue-screen capture features. The remote presence feature provides the following functions:

- Remotely viewing video with graphics resolutions up to 1280x1024 at 75 Hz, regardless of the system state
- Remotely accessing the server using the keyboard and mouse from a remote client
- Mapping the CD or DVD drive, diskette drive, and USB flash drive on a remote client, and mapping ISO and diskette image files as virtual drives that are available for use by the server
- Uploading a diskette image to the IMM memory and mapping it to the server as a virtual drive

The blue-screen capture feature captures the video display contents before the IMM restarts the server when the IMM detects an operating-system hang condition. A system administrator can use the blue-screen capture to assist in determining the cause of the hang condition. The following table lists the remote management options.

Table 18. Remote management options

Part number	Description	Maximum quantity supported
46C7527	IBM Virtual Media Key for Entry Systems	1

Top-of-rack Ethernet switches

The server supports the following top-of-rack Ethernet switches from IBM System Networking.

Table 19. IBM System Networking - Top-of-rack switches

Part number	Description
IBM System Networking - 1 Gb top-of-rack switches	
0446013	IBM BNT RackSwitch G8000R
7309CFC	IBM BNT RackSwitch G8000F
7309CD8	IBM BNT RackSwitch G8000DC
7309G52	IBM BNT RackSwitch G8052R
730952F	IBM BNT RackSwitch G8052F
427348E	IBM Ethernet Switch J48E
6630010	Juniper Networks EX2200 24 Port
6630011	Juniper Networks EX2200 24 Port with PoE
6630012	Juniper Networks EX2200 48 Port
6630013	Juniper Networks EX2200 48 Port with PoE
IBM System Networking - 10 Gb top-of-rack switches	
7309BD5	IBM BNT RackSwitch G8124DC
7309BR6	IBM BNT RackSwitch G8124ER
7309BF7	IBM BNT RackSwitch G8124EF
7309G64	IBM BNT RackSwitch G8264R
730964F	IBM BNT RackSwitch G8264F
0719-410	Juniper Networks EX4500 - Front to Back Airflow
0719-420	Juniper Networks EX4500 - Back to Front Airflow

Integrated virtualization

The server supports VMware ESXi installed on a USB memory key. The key is installed in a USB socket inside the server. The following table lists the virtualization options.

Table 20. Virtualization options

Part number	Description	Maximum quantity supported
41Y8278	IBM USB Memory Key for VMware Hypervisor ESXi 4.0	1
41Y8287	IBM USB Memory Key for VMware ESXi 4.1	1

Uninterruptible power supply units

The server supports attachments to the uninterruptible power supply (UPS) units listed in the following table.

Table 21. Uninterruptible power supply units

Part number	Description
Rack-mounted UPS	
21304RX	IBM UPS 10000XHV
53951AX	IBM 1500VA LCD 2U Rack UPS (100V/120V)
53951KX	IBM 1500VA LCD 2U Rack UPS (230V)
53952AX	IBM 2200VA LCD 2U Rack UPS (100V/120V)
53952KX	IBM 2200VA LCD 2U Rack UPS (230V)
53953AX	IBM 3000VA LCD 3U Rack UPS (100 V/120 V)
53953JX	IBM 3000VA LCD 3U Rack UPS (200 V/208 V)
53956AX	IBM 6000VA LCD 4U Rack UPS (200 V/208 V)
53956KX	IBM 6000VA LCD 4U Rack UPS (230 V)

For more information, see the following at-a-glance guides:

- *IBM 3000VA LCD 3U Rack Uninterruptible Power Supply for IBM System x* at-a-glance guide
  http://www.redbooks.ibm.com/abstracts/tips0782.html?Open
- *IBM 6000VA LCD 4U Rack UPS* at-a-glance guide
  http://www.redbooks.ibm.com/abstracts/tips0793.html?Open

Power distribution units

The server supports attachments to the power distribution units (PDUs) listed in the following table.

Table 22. Power distribution units (part 1)

Part number	Description
Switched and Monitored PDUs	
46M4002	IBM 1U 9 C19/3 C13 Active Energy Manager DPI® PDU
46M4003	IBM 1U 9 C19/3 C13 Active Energy Manager 60A 3 Phase PDU
46M4004	IBM 1U 12 C13 Active Energy Manager DPI PDU
46M4005	IBM 1U 12 C13 Active Energy Manager 60A 3 Phase PDU
46M4167	IBM 1U 9 C19/3 C13 Switched and Monitored 30A 3 Phase PDU
46M4116	IBM 0U 24 C13 Switched and Monitored 30A PDU
46M4119	IBM 0U 24 C13 Switched and Monitored 32A PDU
46M4134	IBM 0U 12 C19/12 C13 Switched and Monitored 50A 3 Phase PDU
46M4137	IBM 0U 12 C19/12 C13 Switched and Monitored 32A 3 Phase PDU
Enterprise PDUs	
71762MX	IBM Ultra Density Enterprise PDU C19 PDU+ (WW)
71762NX	IBM Ultra Density Enterprise PDU C19 PDU (WW)
71763MU	IBM Ultra Density Enterprise PDU C19 3 phase 60A PDU+ (NA)
71763NU	IBM Ultra Density Enterprise PDU C19 3 phase 60A PDU (NA)
39M2816	IBM DPI C13 Enterprise PDU without linecord
39Y8923	DPI 60A Three Phase C19 Enterprise PDU with IEC309 3P+G (208 V) fixed line cord
39Y8941	DPI Single Phase C13 Enterprise PDU without line cord
39Y8948	DPI Single Phase C19 Enterprise PDU without line cord
Front-End PDUs	
39Y8934	DPI 32amp/250V Front-end PDU with IEC 309 2P+Gnd connector
39Y8935	DPI 63amp/250V Front-end PDU with IEC 309 2P+Gnd connector
39Y8938	30amp/125V Front-end PDU with NEMA L5-30P connector
39Y8939	30amp/250V Front-end PDU with NEMA L6-30P connector
39Y8940	60amp/250V Front-end PDU with IEC 309 60A 2P+N+Gnd connector

Table 22. Power distribution units (part 2)

Part number	Description
Universal PDUs	
39Y8951	DPI Universal Rack PDU w/ US LV and HV line cords
39Y8952	DPI Universal Rack PDU w/ CEE7-VII Europe LC
39Y8953	DPI Universal Rack PDU w/ Denmark LC
39Y8954	DPI Universal Rack PDU w/ Israel LC
39Y8955	DPI Universal Rack PDU w/Italy LC
39Y8956	DPI Universal Rack PDU w/South Africa LC
39Y8957	DPI Universal Rack PDU w/UK LC
39Y8958	DPI Universal Rack PDU with AS/NZ LC
39Y8959	DPI Universal Rack PDU w/China LC
39Y8962	DPI Universal Rack PDU (Argentina)
39Y8960	DPI Universal Rack PDU (Brazil)
39Y8961	DPI Universal Rack PDU (India)
0U Basic PDUs	
46M4122	IBM 0U 24 C13 16A 3 Phase PDU
46M4125	IBM 0U 24 C13 30A 3 Phase PDU
46M4128	IBM 0U 24 C13 30A PDU
46M4131	IBM 0U 24 C13 32A PDU
46M4140	IBM 0U 12 C19/12 C13 60A 3 Phase PDU
46M4143	IBM 0U 12 C19/12 C13 32A 3 Phase PDU

Rack cabinets

The server supports the rack cabinets listed in the following table. The Tower-to-Rack Conversion Kit (part number 42C8923, 5Ux20" Tower to Rack Conversion Kit for x3200) is required for the server to be installed in the rack.

Table 23. Rack cabinets

Part number	Description
201886X	IBM 11U Office Enablement Kit
93072PX	IBM 25U Static S2 Standard Rack
93072RX	IBM 25U Standard Rack
14102RX	IBM 25RU standard rack
14104RX	IBM 42U S2 standard rack
93074RX	IBM 42U Standard Rack
93074XX	IBM 42U Standard Rack Extension
93084EX	IBM 42U Enterprise Expansion Rack
93084PX	IBM 42U Enterprise Rack
93604EX	IBM 42U 1200 mm Deep Dynamic Expansion Rack
93604PX	IBM 42U 1200 mm Deep Dynamic Rack
93614EX	IBM 42U 1200 mm Deep Static Expansion Rack
93614PX	IBM 42U 1200 mm Deep Static Rack
93624EX	IBM 47U 1200 mm Deep Static Expansion Rack
93624PX	IBM 47U 1200 mm Deep Static Rack

For more information, see the *IBM 47U and 42U 1200mm Deep Racks at-a-glance guide*, available from: http://www.redbooks.ibm.com/abstracts/tips0796.html?Open

Rack options

The server supports the rack console switches and monitor kits listed in the following table.

Table 24. Rack options

Part number	Description
Monitor kits and keyboard trays	
172319X	1U 19in Flat Panel Console Kit
172317X	1U 17in Flat Panel Console Kit
40K9584	IBM Preferred Pro Keyboard USB - US English 103P
43V6147	IBM Single Cable USB Conversion Option (UCO)
39M2897	IBM Long KVM Conversion Option
Console switches	
1754D2X	IBM Global 4x2x32 Console Manager (GCM32)
1754D1X	IBM Global 2x2x16 Console Manager (GCM16)
1754A2X	IBM Local 2x16 Console Manager (LCM16)
1754A1X	IBM Local 1x8 Console Manager (LCM8)
Console cables	
43V6147	IBM Single Cable USB Conversion Option (UCO)
39M2895	IBM USB Conversion Option (UCO) - 4 Pack
39M2897	IBM Long KVM Conversion Option (KCO) - 4 Pack
46M5383	IBM Virtual Media Conversion Option Gen2 (VCO2)
46M5382	IBM Serial Conversion Option (SCO)

For more information, see the following IBM Redbooks at-a-glance guides:

- *IBM 1754 LCM8 and LCM16 Local Console Managers* at-a-glance guide
  http://www.redbooks.ibm.com/abstracts/tips0788.html?Open
- *IBM GCM16 and GCM32 Global Console Managers* at-a-glance guide
  http://www.redbooks.ibm.com/abstracts/tips0772.html?Open
- *IBM 1U 17-inch and 19-inch Flat Panel Console Kits* at-a-glance guide
  http://www.redbooks.ibm.com/abstracts/tips0731.html?Open

Warranty options

The IBM System x3630 M3 has a 3-year onsite warranty with 9x5/next-business-day terms. IBM offers warranty service upgrades through IBM ServicePacs. The IBM ServicePac is a series of prepackaged warranty maintenance upgrades and post-warranty maintenance agreements with a well-defined scope of services, including service hours, response time, and term of service and service agreement terms and conditions.

IBM ServicePac offerings are country-specific. That is, each country might have its own service types, service levels, response times, and terms and conditions. Not all covered types of ServicePacs might be available in particular country. For more information about IBM ServicePac offerings available in your country, see the IBM ServicePac Product Selector at:
https://www-304.ibm.com/sales/gss/download/spst/servicepac.

In general, the types of IBM ServicePacs are:

- Warranty and maintenance service upgrades
  - One, 2, 3, 4, or 5 years of 9x5 or 24x7 service coverage
  - Onsite repair from next business day to 4 or 2 hours (selected areas)
  - One or 2 years of warranty extension
- Remote technical support services
  - One or 3 years with 24x7 coverage (severity 1) or 9x5/next business day for all severities
  - Installation and startup support for System x® servers
  - Remote technical support for System x servers
  - Software support - Support Line
    - Microsoft or Linux software
    - VMware
    - IBM Director

The following table explains warranty service definitions in more detail.

Table 25. Warranty service definitions

Term	Description
IBM onsite repair (IOR)	A service technician will come to the server's location for equipment repair.
24x7x2 hour	A service technician is scheduled to arrive at your customer's location within two hours after remote problem determination is completed. We provide service around the clock, every day, including IBM holidays.
24x7x4 hour	A service technician is scheduled to arrive at your customer's location within four hours after remote problem determination is completed. We provide service around the clock, every day, including IBM holidays.
9x5x4 hour	A service technician is scheduled to arrive at your customer's location within four business hours after remote problem determination is completed. We provide service from 8:00 a.m. to 5:00 p.m. in the customer's local time zone, Monday through Friday, excluding IBM holidays. If after 1:00 p.m. it is determined that onsite service is required, the customer can expect the service technician to arrive the morning of the following business day. For noncritical service requests, a service technician will arrive by the end of the following business day.
9x5 next business day	A service technician is scheduled to arrive at your customer's location on the business day after we receive your call, following remote problem determination. We provide service from 8:00 a.m. to 5:00 p.m. in the customer's local time zone, Monday through Friday, excluding IBM holidays.

Physical and electrical specifications

Dimensions:

- Width: 488 mm (19.2 in)
- Depth: 749 mm (29.5 in)
- Height: 87 mm (3.4 in)
- Weight
  - Minimum configuration: 16.20 kg (35.68 lb)
  - Maximum configuration: 29.20 kg (64.32 lb)

Operating environment:

- Air temperature
  - Server on
    - 10 - 35° C (50 - 95° F); altitude: 0 - 915 m (3,000 ft)
    - 10 - 32° C (50 - 90° F); altitude: 915 - 2,134 m (3,000 - 7,000 ft)
    - 10 - 28° C (50 - 83° F); altitude: 2,134 - 3,050 m (7,000 - 10,000 ft)
  - Server off: 5 - 45° C (41 - 113° F)
  - Shipment: -40 - 60° C (-40 - 140° F)
- Humidity
  - Server on: 20 - 80%, max dew point 21° C, max rate of change 5° C/hr
  - Server off: 8 - 80%, max dew point 27° C
  - Shipment: 5 - 100%
- Electrical
  - 100 to 127 (nominal) V ac; 50 Hz or 60 Hz; 7.8 A
  - 200 to 240 (nominal) V ac; 50 Hz or 60 Hz; 3.8 A
  - Input kilovolt-amperes (kVA) (approximately):
    - Minimum configuration: 0.22 kVA
    - Maximum configuration: 0.78 kVA
  - Btu output
    - Minimum configuration: 762 Btu/hr (223 watts)
    - Maximum configuration: 2662 Btu/hr (780 watts)
  - Acoustical noise level emission level: Sound power levels
    - 6.1 bels (idling)
    - 6.1 bels (operating)

Regulatory compliance

The server conforms to the following international standards:

- FCC - Verified to comply with Part 15 of the FCC Rules, Class A
- Canada ICES-003, issue 4, Class A
- UL/IEC 60950-1
- CSA C22.2 No. 69950-1-03
- NOM-019
- Argentina IEC60950-1
- Japan VCCI, Class A
- Australia/New Zealand AS/NZS CISPR 22:2009, Class A
- IEC-60950-1:2001 (CB Certificate and CB Test Report)
- Taiwan BSMI CNS 13438, Class A; CNS 14336
- China CCC (4943-2001), GB 9254-2008 Class A, GB 17625.1:2003
- Korea KN22, Class A; KN24
- Russia/GOST ME01, IEC-60950-1, GOST R 51318.22-99, GOST R 51318.24-99, GOST R 51317.3.2-2006, GOST R 51317.3.3-99
- IEC 60950-1 (CB Certificate and CB Test Report)
- CE Mark (EN55022 Class A, EN60950-1, EN55024, EN61000-3-2, EN61000-3-3)
- CISPR 22, Class A
- TUV-GS (EN60950-1 /IEC60950-1,EK1-ITB2000)

Supported operating systems

The server supports the following operating systems:

- Microsoft Windows Essential Business Server 2008 Premium Edition
- Microsoft Windows Essential Business Server 2008 Standard Edition
- Microsoft Windows Server 2003 R2 Datacenter Edition Unlimited Virtualization
- Microsoft Windows Server 2003 R2 x64 Datacenter Edition Unlimited Virtualization
- Microsoft Windows Server 2003/2003 R2, Datacenter Edition
- Microsoft Windows Server 2003/2003 R2, Datacenter x64 Edition
- Microsoft Windows Server 2003/2003 R2, Enterprise Edition
- Microsoft Windows Server 2003/2003 R2, Enterprise x64 Edition
- Microsoft Windows Server 2003/2003 R2, Standard Edition
- Microsoft Windows Server 2003/2003 R2, Standard x64 Edition
- Microsoft Windows Server 2008 R2
- Microsoft Windows Server 2008, Datacenter x64 Edition
- Microsoft Windows Server 2008, Enterprise x64 Edition
- Microsoft Windows Server 2008, Standard x64 Edition
- Microsoft Windows Server 2008, Web x64 Edition
- Microsoft Windows Small Business Server 2003/2003 R2 Premium Edition
- Microsoft Windows Small Business Server 2003/2003 R2 Standard Edition
- Microsoft Windows Small Business Server 2008 Premium Edition
- Microsoft Windows Small Business Server 2008 Standard Edition
- Red Hat Enterprise Linux 5 Server with Xen x64 Edition
- Red Hat Enterprise Linux 5 Server x64 Edition
- Red Hat Enterprise Linux 6 Server Edition
- Red Hat Enterprise Linux 6 Server x64 Edition
- SUSE LINUX Enterprise Server 10 with Xen for AMD64/EM64T
- SUSE LINUX Enterprise Server 11 for AMD64/EM64T
- SUSE LINUX Enterprise Server 11 for x86
- SUSE LINUX Enterprise Server 11 with Xen for AMD64/EM64T
- VMware ESX 4.0
- VMware ESX 4.1
- VMware ESXi 4.0
- VMware ESXi 4.1
- VMware vSphere 5

See the IBM ServerProven® website for the latest information about the specific versions and service levels supported and any other prerequisites:

http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/nos/matrix.shtml

Related publications and links

For more information see the following documents:

- IBM System x3630 M3 product page
  http://www.ibm.com/systems/x/hardware/rack/x3630m3/
- *IBM System x 3630 M3 Installation and User's Guide*
  http://ibm.com/support/entry/portal/docdisplay?lndocid=MIGR-5085552
- *IBM System x 3630 M3 Problem Determination and Service Guide*
  http://ibm.com/support/entry/portal/docdisplay?lndocid=MIGR-5085553
- ServerProven hardware compatibility page for the x3630 M3
  http://www.ibm.com/systems/info/x86servers/serverproven/compat/us/xseries/7377.html
- At-a-glance guides for IBM System x options
  http://www.redbooks.ibm.com/portals/systemx?Open&page=ataglance
- IBM System x DDR3 Memory Configurator
  http://www.ibm.com/systems/x/hardware/ddr3config/
- Configuration and Option Guide
  http://www.ibm.com/systems/xbc/cog/
- xRef - IBM System x Reference Sheets
  http://www.redbooks.ibm.com/xref
- IBM System x Support Portal
  http://ibm.com/support/entry/portal/
  http://ibm.com/support/entry/portal/Downloads/Hardware/Systems/System_x/System_x3630_M3

Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service. IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing, IBM Corporation, North Castle Drive, Armonk, NY 10504-1785 U.S.A.

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law: INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you. This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you. Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products. This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurement may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs.

© Copyright International Business Machines Corporation 2011. All rights reserved.
Note to U.S. Government Users Restricted Rights -- Use, duplication or disclosure restricted by
GSA ADP Schedule Contract with IBM Corp.

This document was created or updated on January 16, 2012.

Send us your comments in one of the following ways:

- Use the online **Contact us** review form found at:
  ibm.com/redbooks
- Send your comments in an e-mail to:
  redbook@us.ibm.com
- Mail your comments to:
  IBM Corporation, International Technical Support Organization
  Dept. HYTD Mail Station P099
  2455 South Road
  Poughkeepsie, NY 12601-5400 U.S.A.

This document is available online at http://www.ibm.com/redbooks/abstracts/tips0807.html .

Trademarks

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both. These and other IBM trademarked terms are US registered or common law trademarks owned by IBM at the time this information was published. Such trademarks may also be registered or common law trademarks in other countries. A current list of IBM trademarks is available on the Web at http://www.ibm.com/legal/copytrade.shtml

The following terms are trademarks of the International Business Machines Corporation in the United States, other countries, or both:

Calibrated Vectored Cooling™
DPI®
IBM Systems Director Active Energy Manager™
IBM®
Redbooks®
Redpaper™
Redbooks (logo)®
ServerProven®
ServicePac®
System Storage®
System x®
X-Architecture®

The following terms are trademarks of other companies:

Microsoft, Windows, and the Windows logo are trademarks of Microsoft Corporation in the United States, other countries, or both.

Intel Xeon, Intel, Intel logo, Intel Inside logo, and Intel Centrino logo are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Linux is a trademark of Linus Torvalds in the United States, other countries, or both.

Other company, product, or service names may be trademarks or service marks of others.